

V. REMARKS

Claims 1-7 are rejected under 35 U.S.C. 103(a) as unpatentable over the Admitted Prior Art (APA) in view of Yamaoka (U.S. Patent No: 4,850,577). The rejection is respectfully traversed.

The APA discloses a metal melting furnace including a metal melting furnace having a preheating flue provided on its upper end with a material inlet opening through which a meltable material is introduced in the preheating flue and, on its lower end, with an inclined hearth. The meltable material such as metal is introduced in the preheating flue and is heated and molten by a melting burner which is oriented toward the lower end of the preheating flue. The molten metal is introduced in a molten metal reservoir through the inclined hearth. The temperature of the molten metal in the reservoir is maintained at a predetermined value by a temperature maintaining burner. A meltable material holder having an open lower end is provided in the preheating flue so that there is a gap between the meltable material holder and an inner furnace wall of the preheating flue that is located on the side opposite to the melting burner.

Yamaoka teaches a melting and holding furnace that includes a melting chamber in which material is melted, a well, a holding chamber disposed between the melting chamber and the well in which a molten material is maintained at a selected temperature. A partition wall is disposed between the melting chamber and the holding chamber. A plurality of submerged banks project from a bottom of the holding chamber and extend transversely of a line linking the melting chamber and the well. The partition wall defines a communicating bore below a melt surface for allowing molten material to flow from the melting chamber to the holding chamber. A hot blast opening above the melt surface allows hot blast exhaust gases to flow from the holding chamber to the melting chamber, thereby defining a portion between the hot blast opening and the communicating bore which functions as a slag barrier.

Claim 1, as amended, is directed to a metal melting furnace that includes a preheating flue which is provided on its upper portion with a meltable material inlet opening and on its lower portion with an inclined hearth defined at least in

part by a furnace wall and a material melting burner which is oriented toward the lower portion of the preheating flue, a molten metal reservoir and a temperature maintaining burner which provided in the molten metal reservoir, so that a meltable material which is introduced in the preheating flue is heated and melted by the material melting burner and is moved along and on the inclined hearth into the molten metal reservoir in which the temperature of the molten metal is maintained by the temperature maintaining burner. Claim 1 recites that a separation wall is provided between the inclined hearth and the molten metal reservoir to define a molten metal processing portion in a form of a chamber disposed between the separation wall and the furnace wall with the separation wall being provided with a connecting passage for the molten metal, between the molten metal reservoir and the molten metal processing portion, at a height level higher than a bottom surface of the molten metal processing portion. Claim 1 further recites that the separation wall is provided on its upper portion with an exhaust gas passage which permits exhaust gas discharged from the molten metal reservoir to pass therethrough and an inspection opening with a door is provided in a furnace wall surface to open into the molten metal processing portion.

It is respectfully submitted that none of the applied art, alone or in combination, teaches or suggests the features of claim 1 as amended. Specifically, it is respectfully submitted that none of the applied art, alone or in combination, teaches or suggests a separation wall being provided between an inclined hearth defined in part by a furnace wall and the molten metal reservoir to define a molten metal processing portion in a form of a chamber disposed between the separation wall and the furnace wall. Thus, it is respectfully submitted that one of ordinary skill in the art would not be motivated to combine the features of the applied art because such combination would not result in the claimed invention. As a result, it is respectfully submitted that claim 1 is allowable over the applied art.

Claims 2-6 depend from claim 1 and include all of the features of claim 1. Thus, it is respectfully submitted that the dependent claims are allowable at least

for the reason claim 1 is allowable as well as for the features they recite. For instance, claim 2 recites that the molten metal reservoir bottom surface is substantially flush with a lower side of the connecting passage for the molten metal and the molten metal processing portion bottom surface is disposed below the lower side of the connecting passage.

Claim 7 is canceled.

Withdrawal of the rejection is respectfully requested.

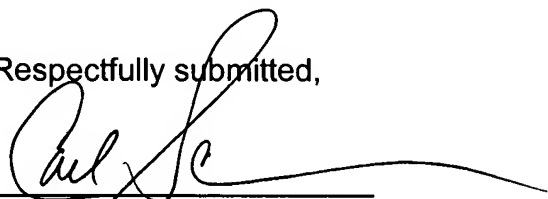
In view of the foregoing, reconsideration of the application and allowance of the pending claims are respectfully requested. Should the Examiner believe anything further is desirable in order to place the application in even better condition for allowance, the Examiner is invited to contact Applicants' representative at the telephone number listed below.

Should additional fees be necessary in connection with the filing of this paper or if a Petition for Extension of Time is required for timely acceptance of the same, the Commissioner is hereby authorized to charge Deposit Account No. 18-0013 for any such fees and Applicant(s) hereby petition for such extension of time.

Respectfully submitted,

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By:


David T. Nikaido
Reg. No. 22,663

Carl Schaukowitz
Reg. No. 29,211

RADER, FISHMAN & GRAUER PLLC

1233 20th Street, N.W. Suite 501

Washington, D.C. 20036

Tel: (202) 955-3750

Fax: (202) 955-3751

Customer No. 23353

Enclosure(s): Amendment Transmittal

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